3. (Twice Amended) [A] The method of claim 17, additionally comprising exposing the sample population to a physiological challenge prior to acquiring the test data.

4. (Twice Amended) [A] The method of claim 17, additionally comprising acquiring control data relating to the one or more [geometrical] optical properties of the sample population prior to exposing the sample population to a candidate optical contrast enhancing agent.

5. (Twice Amended) [A] The method of claim 4, additionally comprising comparing the test data to the control data to assess changes in the one or more optical properties of the sample population representing activity of the candidate optical contrast enhancing agent.

6. (Twice Amended) [A] The method of claim 17, wherein the comparison data is derived from empirically determined controls.

7. (Twice Amended) [A] The method of claim 3, wherein the physiological challenge is selected from the group consisting of: exposure to a test agent, a test condition, a drug, a hormone, a biological agent, a toxin, an infectious agent, radiation, chemotherapy, deprivation of a metabolite or nutrient, electrical stimulation, inflammatory agent, and oncogen.

8. (Twice Amended) [A]The method of claim 17, additionally comprising maintaining multiple sample populations in an *in vitro* culture system.

9. (Twice Amended) [A] The method of claim 17, wherein the test data acquired relates to one or more optical properties selected from the group consisting of: reflection, refraction, diffraction, absorption, scattering, birefringence, refractive index and Kerr effect.

10. (Twice Amended) [A]The method according to claim 17, wherein the biological material is a viable sample population maintained in a cell culture system.

11. (Twice Amended) [A] The method according to claim 17, wherein the biological material is a viable, intact organism.

17. (Amended) A method for identifying optical contrast enhancing agents useful for enhancing the sensitivity of optical detection of a biological material comprising:

maintaining at least one sample population of the biological material in one of the following systems: a cell culture system; a tissue culture system; an organ culture system; and an intact organism;

exposing the at least one sample population to a candidate optical contrast enhancing agent;

acquiring test data relating to one or more optical properties of the sample population subsequent to exposure to the candidate optical contrast enhancing agent; and

comparing the test data acquired to comparison data relating to the one or more optical properties of the sample population , whereby changes in the one or more optical properties reflected in the test data compared to the comparison data represent activity of the candidate optical contrast enhancing agent.

Please cancel claims 1 and 12-16 without prejudice or disclaimer of the subject matter.

REMARKS

Applicants affirm the election of claims 2-11 and 17 for prosecution.

Favorable consideration of the subject application is respectfully considered in view of the above amendments and the following remarks. This reply is being filed within the shortened three-month statutory period, and no extension of time or fee is therefore required.

Following entry of the above amendments, claims 2-11 and 17 are pending in the application, with claim 17 being in independent format.